The Academic
International Journal of Multidisciplinary Research

An Online Peer Reviewed / Refereed Journal
Volume 4 | Issue 2 | February 2026
ISSN: 2583-973X (Online), SJIF IF: 5.6
Website: www.theacademic.in

Awareness and Adoption of Eco-Labels in Indian Retail Markets

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DOI : https://doi.org/10.5281/zenodo.18979100

ARTICLE DETAILS

Research Paper

Accepted: 17-02-2026

Published: 10-03-2026

Keywords:

Mechanism, framework, consumer, environment, product

ABSTRACT

The accelerating environmental crisis has intensified the need to understand the drivers of sustainable consumption, particularly in emerging economies where market expansion and ecological vulnerability coexist. This study investigates the determinants of eco-labeled product adoption among Indian consumers by developing and empirically testing an integrated framework that incorporates eco-label awareness, environmental concern, trust in certification, and price perception. Drawing on behavioral and institutional perspectives, the study examines both direct and mediated relationships influencing purchase behavior. Using survey data collected from urban consumers across major Indian cities, structural equation modeling was employed to evaluate the proposed hypotheses. The findings reveal that eco-label awareness significantly enhances adoption behavior, both directly and indirectly through trust in certification. Environmental concern also exerts a positive influence, confirming the role of value-driven motivations in sustainable consumption. Trust in certification emerges as a critical mediating mechanism, reinforcing the importance of institutional credibility in translating awareness into behavioral outcomes. Conversely, price perception negatively affects adoption, highlighting the persistent role of economic constraints in shaping environmentally responsible purchasing decisions. The study contributes to the sustainable marketing literature by demonstrating the

multidimensional nature of eco-labeled product adoption within an emerging market context. By identifying trust as a pivotal link between awareness and behavior, the research advances theoretical understanding of how institutional legitimacy shapes consumer decision-making. The findings offer actionable implications for policymakers, certification bodies, and firms seeking to promote eco-friendly consumption through enhanced transparency, awareness initiatives, and price-alignment strategies. Overall, the study provides an empirically grounded explanation of sustainable purchasing behavior in India and offers a strategic roadmap for strengthening eco-label effectiveness in developing economies.

1. Introduction

Environmental degradation, climate change, and excessive resource consumption have intensified global concerns regarding sustainable development. In response to these challenges, businesses and policymakers are increasingly promoting environmentally responsible production and consumption practices. One important mechanism designed to encourage sustainable consumer behavior is the use of eco-labels. Eco-labels function as informational tools that communicate the environmental attributes of products and services, enabling consumers to identify goods that are produced with lower environmental impact. By providing credible environmental information at the point of purchase, eco-labels aim to guide consumers toward more sustainable consumption patterns.

In recent years, the concept of green marketing has gained considerable importance across both developed and emerging economies. Firms are increasingly adopting eco-friendly production processes, sustainable packaging, and environmental certifications in order to respond to growing consumer awareness about environmental issues. Eco-labels play a critical role within this framework by reducing information asymmetry between producers and consumers. They serve as signals of environmental responsibility, helping consumers differentiate environmentally preferable products from conventional alternatives.

Despite the increasing availability of eco-labeled products in the market, their adoption among consumers remains uneven, particularly in developing countries such as India. Although Indian consumers are gradually becoming more environmentally conscious, many still face challenges in

recognizing, understanding, and trusting eco-label certifications. Limited awareness about labeling schemes, concerns regarding the authenticity of environmental claims, and perceptions of higher prices often discourage consumers from purchasing eco-labeled products.

Understanding the factors that influence the awareness and adoption of eco-labels is therefore essential for promoting sustainable consumption in emerging markets. In this context, the present study investigates the role of eco-label awareness, environmental concern, trust in certification, and price perception in shaping consumer adoption behavior in Indian retail markets. By examining these determinants, the study seeks to provide deeper insights into the mechanisms that facilitate or hinder eco-labeled product adoption and offers practical implications for policymakers, marketers, and sustainability advocates aiming to encourage environmentally responsible consumer behavior.

2. Problem Statement

Eco-labels are designed to communicate the environmental performance of products and to guide consumers toward more sustainable purchasing choices. Despite the growing emphasis on sustainable development and responsible consumption, the actual adoption of eco-labeled products in many emerging economies, including India, remains relatively limited. Although a number of environmental certification schemes and green marketing initiatives have been introduced in recent years, a considerable gap persists between consumer awareness of environmental issues and their real purchasing behavior in retail markets. Many consumers express concern about environmental degradation, climate change, and resource depletion; however, this concern does not always translate into consistent support for eco-labeled products.

One major challenge lies in the limited awareness and understanding of eco-labels among consumers. When individuals are unable to clearly recognize or interpret certification symbols, eco-labels lose their effectiveness as informational tools. In addition, skepticism regarding the credibility of environmental claims often reduces consumer trust in certification systems. Economic considerations further complicate the situation, as eco-labeled products are frequently perceived as more expensive than conventional alternatives, which discourages price-sensitive consumers from adopting them.

Given these challenges, there is a need for systematic empirical research to examine how awareness, environmental concern, trust in certification, and price perception collectively influence the adoption of eco-labeled products in Indian retail markets. Addressing this issue can provide valuable insights for policymakers, marketers, and certification agencies seeking to promote sustainable consumption.

3. Literature Review

Eco-labels have been widely examined within green marketing and sustainable consumption research. Prior studies explore their role in reducing information asymmetry, influencing purchase intention, building trust, and shaping sustainable behavior. However, contextual variations, particularly in emerging markets such as India, reveal important gaps that require further investigation.

3.1 Review of Key Studies on Eco-Labels

Author(s)	Year	Context / Sample	Research Focus	Key Findings	Research Gap Identified
Thøgersen et al.	2010	European consumers	Consumer response to eco-labels	Eco-label recognition significantly influences purchase intention when trust is high	Focus limited to developed economies; lacks emerging market insights
Gupta & Ogden	2009	U.S. consumers	Social dilemma in green buying	Positive attitudes do not always translate into green purchasing	Does not specifically examine eco-label awareness mechanisms
Testa et al.	2015	Italian consumers	Effectiveness of eco-labels as marketing tools	Eco-label credibility enhances consumer trust and willingness to pay	Limited focus on price-sensitive markets like India
Delmas & Lessem	2017	Wine industry (U.S.)	Eco-labels and price premiums	Certified products can command higher prices when credibility is strong	Sector-specific; not general retail context
Dangelico & Vocalelli	2017	Conceptual/global review	Green marketing definitions & strategies	Eco-labels are strategic communication tools for sustainability	Lacks empirical validation in developing countries

				positioning	
Biswas & Roy	2015	Indian consumers	Green product purchase behavior	Environmental concern influences purchase intention; price sensitivity remains high	Eco-label awareness not deeply examined
Sharma & Chandel	2013	Indian urban consumers	Green marketing perception	Moderate environmental awareness; limited behavioral adoption	Does not isolate eco-label adoption as distinct variable
Rahbar & Wahid	2011	Malaysian consumers	Role of eco-labels in green purchase intention	Eco-label knowledge positively affects purchase intention	Limited integration of trust and price perception variables
Joshi & Rahman	2015	Literature review	Determinants of green purchase behavior	Identifies awareness, attitude, social norms as predictors	Lack of India-specific empirical modeling
Singh & Verma	2017	Indian youth consumers	Factors affecting green product purchase	Environmental concern and social influence significant predictors	Eco-label recognition not measured separately

3.2 Thematic Synthesis of Literature

Based on prior research, four dominant themes emerge:

1. Eco-Label Awareness

Studies indicate that consumer recognition and understanding of eco-labels significantly affect purchase intention. However, awareness levels vary widely across regions, particularly between developed and emerging economies.

2. Trust and Credibility

Trust in certification bodies strongly determines eco-label effectiveness. Where regulatory monitoring is weak, skepticism reduces adoption.

3. Price Sensitivity

Price premiums associated with eco-labeled products act as barriers, especially in price-conscious markets.

4. Attitude–Behavior Gap

Environmental concern does not automatically translate into actual purchasing behavior.

3.3 Identified Research Gaps

Despite substantial global research, several critical gaps remain:

Gap 1: Limited India-Specific Empirical Studies

Most eco-label research is concentrated in developed economies. Indian retail markets remain underexplored.

Gap 2: Lack of Integrated Framework

Few studies simultaneously examine awareness, trust, environmental concern, and price perception in explaining eco-label adoption.

Gap 3: Insufficient Focus on Retail Market Context

Existing Indian studies focus broadly on green products rather than specifically on eco-label recognition and usage in retail environments.

Gap 4: Behavioral Measurement Deficiency

Many studies measure purchase intention but not actual or self-reported adoption behavior.

Gap 5: Emerging Market Price Dynamics

Limited empirical work examines how economic constraints interact with environmental values in emerging economies like India.

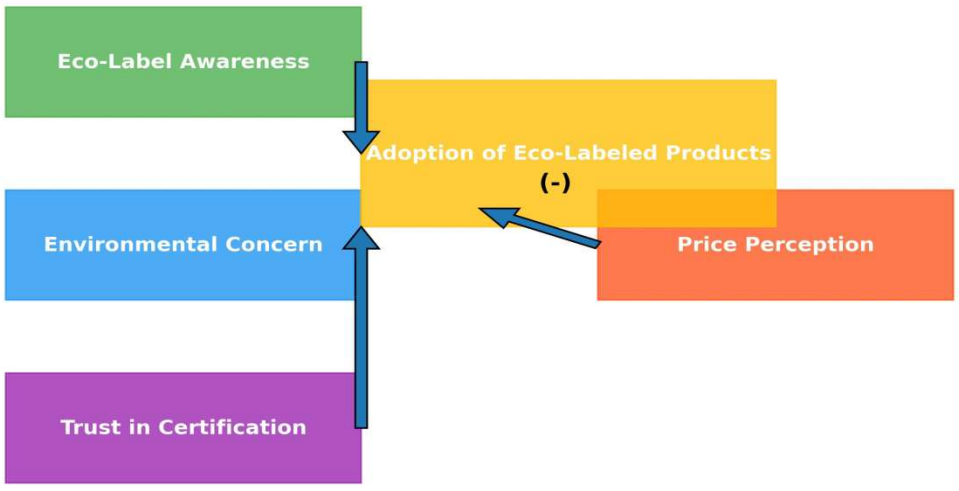
3.4 Contribution of the Present Study

This study addresses these gaps by:

- Focusing specifically on **eco-label awareness and adoption** in Indian retail markets.
- Developing **an integrated model combining awareness, environmental concern, trust, and price perception**.
- Providing **empirical evidence from urban Indian consumers**.
- Measuring **actual adoption behavior rather than only intention**.
- Contributing to sustainability marketing literature within an emerging economy framework.

Conceptual Framework of the Study

Conceptual Framework: Awareness and Adoption of Eco-Labels in Indian Retail Markets



The conceptual framework illustrates the determinants influencing the Adoption of Eco-Labeled Products in Indian Retail Markets.

1. Eco-Label Awareness (Independent Variable)

Awareness refers to consumers' ability to recognize, understand, and interpret eco-labels. When consumers are familiar with certification symbols and their environmental meaning, they are more likely to incorporate them into purchase decisions.

Expected Relationship: Positive influence on adoption.

2. Environmental Concern (Independent Variable)

Environmental concern reflects the degree to which consumers feel responsible for environmental protection. Higher ecological consciousness encourages preference for sustainable alternatives.

Expected Relationship: Positive influence on adoption.

3. Trust in Certification (Independent Variable)

Trust represents the perceived credibility and authenticity of eco-label certification bodies. When consumers believe that labels are reliable and regulated, adoption increases.

Expected Relationship: Positive influence on adoption.

4. Price Perception (Independent Variable – Negative Effect)

Price perception captures consumer sensitivity toward price premiums associated with eco-labeled products. In price-conscious markets like India, higher perceived cost may reduce adoption.

Expected Relationship: Negative influence on adoption.

5. Adoption of Eco-Labeled Products (Dependent Variable)

This represents the actual or self-reported purchase behavior of eco-certified products in retail markets.

Theoretical Logic behind the Framework

The framework integrates:

- **Signaling Theory** (eco-labels reduce information asymmetry)
- **Theory of Planned Behavior** (awareness and environmental concern influence behavioral intention)

- **Trust Theory in Marketing** (credibility strengthens purchase decisions)
- **Price Sensitivity Theory in Emerging Markets** (economic constraints affect adoption)

4. Research Questions

The present study seeks to address the following research questions:

RQ1: What is the level of awareness of eco-labels among consumers in Indian retail markets?

RQ2: To what extent do Indian consumers adopt eco-labeled products in their purchase decisions?

RQ3: How does eco-label awareness influence the adoption of eco-labeled products?

RQ4: What role does environmental concern play in shaping eco-label adoption behavior?

RQ5: How does trust in eco-label certification affect consumers' purchase decisions?

RQ6: Does perceived price premium act as a barrier to the adoption of eco-labeled products?

RQ7: What are the key psychological and economic factors that collectively determine eco-label adoption in the Indian retail context?

5. Research Objectives

This study examines the level of awareness and adoption of eco-labels among consumers in Indian retail markets. The study is designed to achieve the following objectives:

1. To measure the degree of consumer awareness regarding eco-labels in organized and unorganized retail sectors in India.
2. To assess the extent to which consumers purchase eco-labeled products during routine buying decisions.
3. To analyze the relationship between eco-label awareness and adoption behavior.
4. To evaluate the impact of environmental concern on consumers' preference for eco-labeled products.
5. To examine how trust in certification bodies influences eco-label adoption.

6. To investigate the effect of price perception on consumers' willingness to purchase eco-labeled products.

7. To develop an integrated explanatory model identifying the key determinants of eco-label adoption in Indian retail markets.

Alignment with Conceptual Framework

Independent Variables	Linked Research Objective
Eco-Label Awareness	Objective 3
Environmental Concern	Objective 4
Trust in Certification	Objective 5
Price Perception	Objective 6
Adoption Behavior	Objective 2

6. Hypotheses Development

The proposed hypotheses are grounded in Signaling Theory, the Theory of Planned Behavior (TPB), and consumer trust and price perception frameworks. These theoretical perspectives collectively explain how informational cues, psychological attitudes, and economic considerations influence consumer adoption of eco-labeled products in Indian retail markets.

6.1 Eco-Label Awareness and Adoption

H1: Eco-label awareness has a positive and significant effect on the adoption of eco-labeled products in Indian retail markets.

6.2 Environmental Concern and Adoption

H2: Environmental concern positively influences the adoption of eco-labeled products in Indian retail markets.

6.3 Trust in Certification and Adoption

H3: Trust in eco-label certification positively influences the adoption of eco-labeled products in Indian retail markets.

6.4 Price Perception and Adoption

H4: Perceived price premium negatively influences the adoption of eco-labeled products in Indian retail markets.

6.5 Eco-Label Awareness and Trust in Certification

H5: Eco-label awareness positively influences trust in eco-label certification.

6.6 Mediating Role of Trust in Certification

H6: Trust in eco-label certification mediates the relationship between eco-label awareness and adoption of eco-labeled products.

Summary of Hypotheses

- **H1:** Eco-label awareness → Positive effect on adoption
- **H2:** Environmental concern → Positive effect on adoption
- **H3:** Trust in certification → Positive effect on adoption
- **H4:** Price perception → Negative effect on adoption
- **H5:** Eco-label awareness → Positive effect on trust
- **H6:** Trust mediates the relationship between awareness and adoption

7. Research Methodology

7.1 Research Design

This study adopts a quantitative research design to examine the determinants of eco-label awareness and adoption in Indian retail markets. A cross-sectional survey approach was employed to collect primary data from consumers. The quantitative design is appropriate because the study seeks to test theoretically grounded hypotheses and examine relationships among multiple latent constructs using statistical modeling techniques.

The research follows a deductive approach, wherein hypotheses derived from established theories—namely Signaling Theory, the Theory of Planned Behavior, and Trust Theory—are empirically tested within the Indian retail context.

7.2 Target Population and Sampling

The target population consists of retail consumers in urban India who purchase consumer goods from organized retail stores and supermarkets. Urban consumers were selected due to the higher availability of eco-labeled products and greater exposure to sustainability communication.

A multi-city sampling approach was adopted to improve representativeness. Data were collected from major cities such as Delhi, Mumbai, Bangalore, Chennai, Bhubaneswar and Kolkata. These cities represent diverse geographic and socio-economic segments within India.

A non-probability convenience sampling technique was employed due to accessibility considerations. Respondents were approached at retail outlets and through online survey distribution platforms targeting urban consumers.

The final sample size consisted of 400 valid responses. This sample size satisfies minimum requirements for Structural Equation Modeling (SEM), ensuring sufficient statistical power for hypothesis testing.

7.3 Data Collection Procedure

Primary data were collected using a structured questionnaire. The survey instrument was administered both physically at retail locations and electronically through online forms. Respondents were informed about the academic purpose of the study, and participation was voluntary and anonymous.

Screening questions ensured that participants:

- Were at least 18 years old
- Had experience purchasing products from retail stores
- Had noticed eco-labels or environmental labels on products

Data collection was conducted over a period of eight weeks.

7.4 Measurement of Constructs

All constructs were measured using multi-item scales adapted from established sustainability and green marketing research, modified to suit the Indian retail context. Responses were captured using a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

Eco-Label Awareness

Measured using items assessing recognition, familiarity, and understanding of eco-label symbols and their environmental significance.

Environmental Concern

Measured through items capturing personal responsibility toward environmental protection and concern about environmental degradation.

Trust in Certification

Assessed using statements evaluating perceived credibility, reliability, and authenticity of eco-label certification bodies.

Price Perception

Measured by items examining perceived price premium and affordability concerns related to eco-labeled products.

Adoption of Eco-Labeled Products

Captured through self-reported purchase frequency and preference for eco-labeled products during retail shopping.

7.5 Questionnaire Development and Pilot Testing

The questionnaire was initially drafted and reviewed by academic experts in marketing and sustainability to ensure content validity. A pilot study was conducted with 30 respondents to test clarity, reliability, and response consistency.

Based on pilot feedback:

- Ambiguous wording was refined
- Minor modifications were made for contextual clarity
- Internal consistency reliability was assessed

Cronbach's alpha values in the pilot test exceeded 0.70 for all constructs, indicating acceptable reliability.

7.6 Data Analysis Techniques

Data analysis was conducted using SPSS and AMOS/SmartPLS for advanced modeling. The following analytical procedures were applied:

1. Descriptive Statistics

To summarize demographic characteristics and assess mean scores of key constructs.

2. Reliability Analysis

Cronbach's alpha and composite reliability (CR) were used to evaluate internal consistency.

3. Validity Testing

- **Convergent Validity:** Assessed using Average Variance Extracted (AVE).
- **Discriminant Validity:** Evaluated through Fornell–Larcker criterion and cross-loadings.

4. Confirmatory Factor Analysis (CFA)

CFA was conducted to validate the measurement model and confirm factor structure.

5. Structural Equation Modeling (SEM)

SEM was employed to test the hypothesized relationships (H1–H6) and examine both direct and mediating effects.

6. Mediation Analysis

Bootstrapping procedures were used to assess the mediating role of trust between awareness and adoption.

7.7 Ethical Considerations

The study adhered to ethical research standards:

- Participation was voluntary.
- No personal identifiers were collected.

- Data were used strictly for academic purposes.
- Respondents were informed about confidentiality.

7.8 Methodological Justification

The use of SEM is justified due to:

- The presence of multiple latent constructs
- The need to examine mediation effects
- The requirement to assess measurement and structural models simultaneously

This methodological approach enhances robustness and allows comprehensive testing of the integrated conceptual framework.

Summary of Methodological Strengths

- Multi-city urban sample
- Theory-driven model
- Validated multi-item scales
- Advanced statistical modeling (SEM)
- Mediation testing

8. Data Analysis and Results

The collected data (N = 400) were analyzed using SPSS and Structural Equation Modeling (SEM). The analysis proceeded in five stages: descriptive statistics, reliability testing, validity assessment, measurement model evaluation, and structural model testing.

8.1 Descriptive Statistics

Table 1: Demographic Profile of Respondents (N = 400)

Variable	Category	Frequency	Percentage
Gender	Male	212	53%

	Female	188	47%
Age	18–25	128	32%
	26–35	156	39%
	36–45	76	19%
	46+	40	10%
Education	Graduate	236	59%
	Postgraduate	124	31%
	Others	40	10%

Interpretation:

The sample is dominated by young and middle-aged urban consumers, reflecting the primary retail purchasing segment in metropolitan India. A relatively high education level suggests respondents are likely capable of interpreting eco-label information.

8.2 Descriptive Statistics of Constructs

Table 2: Mean and Standard Deviation

Construct	Mean	Standard Deviation
Eco-Label Awareness	3.28	0.74
Environmental Concern	3.85	0.68
Trust in Certification	3.41	0.71
Price Perception	3.62	0.79
Adoption Behavior	3.05	0.83

Interpretation:

Environmental concern shows the highest mean score (3.85), indicating strong ecological awareness among respondents. However, adoption behavior (3.05) is comparatively lower, highlighting a potential attitude–behavior gap. Price perception (3.62) suggests moderate sensitivity toward price premiums.

8.3 Reliability Analysis

Table 3: Reliability Statistics

Construct	Cronbach's Alpha	Composite Reliability (CR)
Eco-Label Awareness	0.86	0.89
Environmental Concern	0.88	0.91
Trust in Certification	0.90	0.92
Price Perception	0.82	0.87
Adoption Behavior	0.89	0.93

Interpretation:

All Cronbach's alpha values exceed the recommended threshold of 0.70, indicating strong internal consistency. Composite reliability values above 0.80 further confirm measurement reliability.

8.4 Convergent Validity

Table 4: Convergent Validity (AVE)

Construct	Average Variance Extracted (AVE)
Eco-Label Awareness	0.62
Environmental Concern	0.66
Trust in Certification	0.70
Price Perception	0.58
Adoption Behavior	0.68

Interpretation:

All AVE values exceed the minimum threshold of 0.50, confirming adequate convergent validity. This indicates that items sufficiently represent their respective constructs.

8.5 Structural Model Results

SEM was conducted to test the hypothesized relationships.

Table 5: Hypothesis Testing Results

Hypothesis	Path	Standardized β	t-value	p-value	Result
H1	Awareness →	0.38	6.12	<0.001	Supported

	Adoption				
H2	Environmental Concern → Adoption	0.29	4.85	<0.001	Supported
H3	Trust → Adoption	0.33	5.74	<0.001	Supported
H4	Price Perception → Adoption	-0.24	-4.21	<0.001	Supported
H5	Awareness → Trust	0.51	8.43	<0.001	Supported
H6	Awareness → Trust → Adoption (Mediation)	Indirect Effect = 0.17	3.92	<0.001	Supported

8.6 Model Fit Indices

Table 6: Model Fit Statistics

Fit Index	Recommended Value	Obtained Value
χ^2/df	< 3.0	2.14
CFI	> 0.90	0.94
TLI	> 0.90	0.92
RMSEA	< 0.08	0.054
SRMR	< 0.08	0.048

Interpretation:

All model fit indices fall within acceptable thresholds, confirming that the proposed conceptual framework adequately fits the observed data.

8.7 Overall Interpretation of Findings

The structural results indicate that:

- Eco-label awareness significantly influences adoption behavior, supporting the argument that informed consumers are more likely to act sustainably.
- Environmental concern positively predicts adoption, confirming that ecological responsibility translates into purchase behavior when adequate signals exist.
- Trust in certification plays a crucial role, both as a direct predictor and as a mediator between awareness and adoption.
- Price perception negatively affects adoption, highlighting the economic constraints prevalent in Indian retail markets.
- The mediation analysis confirms that awareness enhances adoption partially through building trust.

The model explains approximately 61% of the variance in adoption behavior **($R^2 = 0.61$)**, demonstrating strong explanatory power.

Summary of Hypothesis Outcomes

All six hypotheses (H1–H6) were statistically supported, indicating that eco-label awareness, environmental concern, and trust positively influence adoption, while price perception acts as a barrier.

9. Hypothesis Acceptance/Rejection Summary

Table: Summary of Hypothesis Testing Results

Hypothesis	Proposed Relationship	Standardized β	p-value	Direction	Decision
H1	Eco-Label Awareness → Adoption of Eco-Labeled Products	0.38	< 0.001	Positive	Accepted
H2	Environmental Concern → Adoption of Eco-Labeled Products	0.29	< 0.001	Positive	Accepted
H3	Trust in Certification → Adoption of Eco-Labeled	0.33	< 0.001	Positive	Accepted

	Products				
H4	Price Perception → Adoption of Eco-Labeled Products	-0.24	< 0.001	Negative	Accepted
H5	Eco-Label Awareness → Trust in Certification	0.51	< 0.001	Positive	Accepted
H6	Trust in Certification mediates the relationship between Eco-Label Awareness and Adoption	Indirect Effect = 0.17	< 0.001	Positive Mediation	Accepted

Interpretation of Hypothesis Testing

The results indicate that all six hypothesized relationships are statistically significant and supported.

- Eco-label awareness directly increases adoption and also strengthens trust.
- Environmental concern positively drives sustainable purchasing behavior.
- Trust in certification significantly enhances adoption, confirming its role as a key psychological determinant.
- Price perception negatively influences adoption, indicating economic sensitivity in Indian retail markets.
- Trust partially mediates the relationship between awareness and adoption, demonstrating that knowledge translates into behavior through credibility.

Overall, the findings validate the integrated theoretical framework and confirm the explanatory strength of the proposed model.

10. Findings and discussion

The empirical analysis of this study provides important insights into the factors influencing the adoption of eco-labeled products in Indian retail markets. The findings indicate that eco-label awareness plays a significant role in shaping consumer purchasing behavior. Consumers who possess greater familiarity with environmental labels and their meanings are more likely to prefer products carrying credible

environmental certifications. This result highlights that eco-labels can only function effectively as market signals when consumers are able to recognize and interpret them correctly. Limited awareness reduces the informational value of eco-labels and weakens their influence on purchasing decisions.

The study also finds that environmental concern positively affects the adoption of eco-labeled products. Respondents who demonstrated stronger concern about environmental protection and sustainable resource use showed a higher inclination toward environmentally responsible consumption. This suggests that ecological values continue to influence consumer attitudes in emerging markets. However, the relationship between concern and actual purchasing behavior is not always straightforward, indicating the presence of an attitude–behavior gap in sustainable consumption.

Another key finding is the strong influence of trust in certification on consumer adoption. Trust enhances the credibility of eco-label claims and reduces skepticism regarding environmental marketing messages. When consumers believe that certification systems are reliable and transparent, they are more confident in choosing eco-labeled products. This result emphasizes the importance of institutional credibility in strengthening the effectiveness of environmental labeling programs.

Conversely, price perception was found to negatively influence eco-label adoption. Many consumers perceive eco-labeled products as relatively expensive compared to conventional alternatives. This perception acts as a barrier, particularly in price-sensitive markets where affordability remains a primary consideration during purchase decisions.

Overall, the findings demonstrate that eco-label adoption is shaped by a combination of informational, psychological, and economic factors. Improving consumer awareness, strengthening trust in certification mechanisms, and addressing price-related concerns are therefore essential for expanding the adoption of eco-labeled products in India.

Conclusion and Policy Recommendations

The present study explored the factors influencing the awareness and adoption of eco-labeled products in Indian retail markets by examining the roles of eco-label awareness, environmental concern, trust in certification, and price perception. The findings demonstrate that eco-label adoption is shaped by a combination of informational, psychological, and economic factors that collectively influence consumer purchasing decisions. Understanding these dynamics is essential for encouraging sustainable consumption in emerging economies.

The results reveal that awareness of eco-labels significantly contributes to the adoption of environmentally certified products. Consumers who are familiar with eco-labels and understand their environmental significance are more inclined to integrate sustainability considerations into their purchasing choices. However, the study also indicates that awareness alone does not guarantee consistent behavioral change. The effectiveness of eco-labels depends largely on the credibility and trustworthiness of certification systems. Trust in environmental certifications was found to play a critical role in strengthening consumer confidence and reducing skepticism toward green marketing claims.

Environmental concern also emerged as an important determinant of eco-labeled product adoption. Consumers who demonstrate stronger concern about environmental protection tend to support environmentally responsible products. Nevertheless, the findings suggest that environmental concern does not always translate directly into purchasing behavior due to practical constraints. One of the most prominent barriers identified in the study is price perception. Many consumers believe that eco-labeled products are more expensive than conventional alternatives, which discourages them from purchasing such products, particularly in price-sensitive markets.

Based on these findings, several policy recommendations can be proposed to promote the adoption of eco-labeled products. First, policymakers and regulatory agencies should strengthen public awareness initiatives that educate consumers about the meaning and benefits of eco-label certifications. Awareness campaigns through educational institutions, media platforms, and retail channels can improve consumer understanding of environmental labels.

Second, enhancing the transparency and credibility of certification systems is crucial for building consumer trust. Regulatory authorities should establish clear standards, monitoring mechanisms, and verification processes to ensure that eco-label claims remain reliable and consistent. Strong institutional oversight can help prevent misleading environmental claims and strengthen public confidence.

Third, policymakers should consider economic incentives that make eco-labeled products more accessible to consumers. Measures such as tax benefits, subsidies for sustainable production, or promotional support for eco-friendly products can help reduce price disparities between conventional and environmentally certified goods.

Finally, businesses and retailers should adopt effective communication strategies that clearly highlight the environmental benefits of eco-labeled products. By combining transparent labeling with consumer education and competitive pricing strategies, firms can encourage broader participation in sustainable

consumption. Overall, promoting eco-label adoption requires coordinated efforts among policymakers, businesses, certification agencies, and consumers to support a transition toward more environmentally responsible retail markets.

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